QC1- Inspect dimensions to dimension sheet

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Quality Control

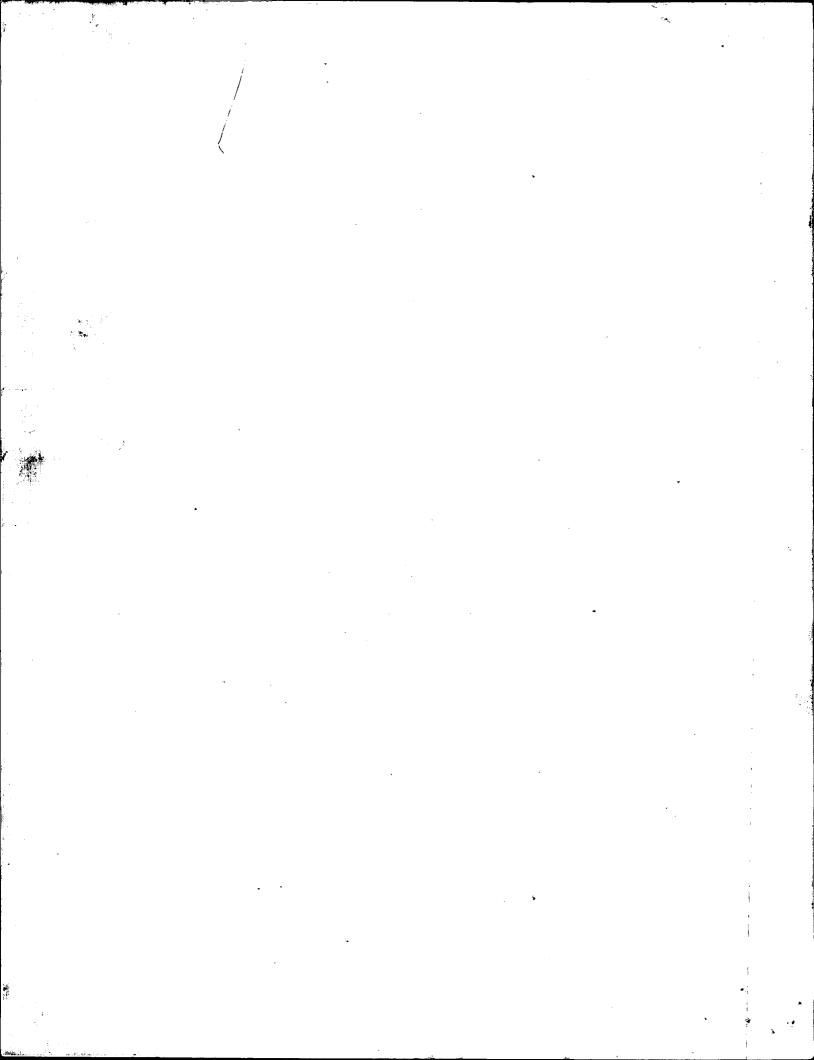
April-16-12 2:29:50 PM D350-748-241TRN Item ID: Accept *N900040100* Setup Start **Revision ID:** Item Name: Crosstube Turning Detail **Start Date:** Start Qty: 1.00 16/04/2012 **Cust Item ID: Required Date:** 30/04/2012 Req'd Qty: 1.00 **Customer:** Reference: Run Approvals: Process Plan: Date: Tooling: Date: Stop QC: SPC (Y/N): Date: Date: Sequence ID/ Operation Tool ID Set Up/ Tool # Plan Reject Accept Insp. Reject **Work Center ID** Description **Run Hours** Code Qty Qty Number Stamp 120 0.00 MORI SEIKI CNC LATHE LARGE *120* Mori Seiki 0.00 Memo Mori Seiki CNC Lathe Large 1-Turn second side as per Folio FA647 2- File transition lines smooth. 3-Scribe part # as per Dwg D350-748-241 FOLIO REV: DWG REV: 130 QC1- Inspect dimensions to dimension sheet 0.00 *130* 0.00 Memo Quality Control 140 QC8- Inspect parts - second check 0.00 QC 0.00 Memo

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NCR: 1	1549	W	ORK OR	DER NON-CONFORMANC	E (NCR)			
			Description of NC Corrective Action Section B Veri					
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17.05 07_	ivo	Cuff machined to \$2.190 along 0.080° long area at end of cuff	a	Acceptable.	W	S alustos	P	5
		long area at end of cuff	P51492	GRIND SMOUTH	12-050	Alusto2	12.05.02 Q51412	Mestoz
		amoul step at 8mg of cull						
		From Ros tool. Ri uffset in tool					·	
		the appet or soot						



Packaging

April-16-12 2:29:50 PM Item ID: D350-748-241TRN Accept *N900040100* Setup Start **Revision ID:** Item Name: Crosstube Turning Detail **Start Date:** 16/04/2012 Start Qty: 1.00 **Cust Item ID: Required Date:** 30/04/2012 **Req'd Qty:** 1.00 **Customer:** Reference: Run Approvals: **Process Plan:** Date: Tooling: Date: Stop Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ **Tool ID** Tool # Plan Accept Reject Reject **Work Center ID** Description **Run Hours** Code Qty Qty Number Stamp 150 0.00 Large Fab *150* Crosstubes 0.00 Memo Crosstubes Grind machining marks. 160 Outsource process - Heat Treat 0.00 *160* Outsource1 0.00 Memo Outsource process - Heat Treat Heat Treat to min 180 KSI As per Dwg D350-748-241 Sand Blast tube after Heat Treat Possibe Supplier: Vac Aero Ensure Certificate of Conformity is attached 170 Receive & Inspect for Damage & Mat'l Certs 0.00 *170* Packaging 0.00 Memo

Ensure certificate of conformaty is attached

Dart Aerospace Ltd	Dar	t Aer	osp	ace	Ltd
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Quality Control

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Work Order ID: 83289

83289

Parent Item:

D350-748-241TRN =

D350-748-241TRN

Parent Item Name: Crosstube Turning Detail

Start Date: 16/04/2012

Required Date: 30/04/2012

Page 1

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:A New Issue 08-03-06 DD verified by:ec

IPP Rev B Removed polish 08.04.02 EC verified by: DD

IPP Rev C Removed LPS-3 08.06.23 Ec verified by: DD IPP Rev D

11.02.24 as per dwg rev.F DD verf: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status	
D6015-125		Manufactured	No			120	Each	44.0000	1	1				
D6015-12	5								**					

Location	Loc Qty	Loc Code
HALL	44	
61380	4	
72511	40 .	
32913		

Kc 12-4-20

Dart Ae	rospace L	td							ng 1	
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DART AEROSPACE LTD	Work Order:	83289
Description: Crosstube Assembly (AS350/355 High Aft)	Part Number:	D350-748-241
Inspection Dwg: D350-748-241 Rev: F		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

pection Sheet ving Dimension	Tolerance					1
	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2.240	+0.005/-0.000	2.240			vern	CNC-OK
2.180	+0.005/-0.000	7.185)		1	C000 08
2.180	+0.005/-0.000	2-185	/			
2.208	+0.005/-0.000	2.212	1		1 - 1	
2.234	+0.005/-0.000	2237				
2.253	+0.005/-0.000	2.254				
2.272	+0.005/-0.000	2.273				
2.299	+0.005/-0.000	2-200			J	
0.063	+/-0.010	~3				1/2 05/
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2.240	+0.005/-0.000	2,241			V250	cwc-do
2.180	+0.005/-0.000	2.185			1	000-08
2.180	+0.005/-0.000	2.185				
2.208	+0.005/-0.000	22/3				
2.234	+0.005/-0.000	2.238				
2.253	+0.005/-0.000	2.255				
2.272	+0.005/-0.000	2-275				
2.299	+0.005/-0.000	2, 299			7	
0.063	+/-0.010	,063			111.60	2 /2 20
4.26						CWC-08
R0.063						
R0.50	+/-0.030	-500			K()	
122.70	+/-0.060	122,700			tape.	mom (-O)
	2.180 2.208 2.234 2.253 2.272 2.299 0.063 4.26 R0.063 R0.50 2.240 2.180 2.180 2.208 2.234 2.253 2.272 2.299 0.063 4.26 R0.063	2.180	2.180	2.180	2.180	2.180

	122,700	Tave mom v-O)
Measured by: An.L	Audited by:	Preliminary Approval:
Date: 12/04/21	Date: 2-5-3	Date:
Day Data Ob		

Rev	Date	Change	Revised by Approved
Α	07.01.17	New Issue (P/O D350-748-201)	KJ/JLM (C
В	12.02.02	Dwg Rev updated	KJ AT N

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Item	Qty -241	Part Number	Description
1	Х	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6015-125	CROSSTUBE (OR D6018-125)
3	2	D3502-1	SUPPORT
4	2	D2856-400-710	ABRASION STRIP
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (PER DART SPEC, M-MS21920-20)
8	1	MS27039-1-10	SCREW

GENERAL NOTES:

1) MATERIAL: MANUFACTURED FROM D6015-125 OR D6018-125

FINISHED LENGTH = 122.700±0.06

MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2 CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2 PAINT OUTSIDE PER DART QSI 005 4.2

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.

BREAK SHARP EDGES: 0.005 TO 0,010 MAX

6) IDENTIFICATION: DART PART NUMBER "D350-748-241" AND BATCH NUMBER ON INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS)

7) WEIGHT: 29.85 lbs

PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.

- RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.

11) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING. ACCEPTABLE TO VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.

12) INSTALL D2856-400-710 ABRASION STRIPS WITH A GAP ON BOTTOM SIDE OF CROSSTUBE

CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035. 13) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO

CRACKING/CHIPPING/GROOVES. 14) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED OUT AFTER TORQUING.

15) MAX TWIST AFTER BENDING: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.25 (ZN C1-3).

SHOP COPY RETURN TO ENGINEERING *CONTROLLED COPY MIECT TO AMENDMENT WITHOUT NOTICE PORDER MCJ 12/04/16



F	TWIST	RC TEST OF LIMIT (A8-1, , STOCK DIN	CP 10.11.23				
E	STAND	E GENERAL DARDS; REL 1-3); ADD TO	RF	09.09.30			
D	MAG.	MAG. PARTICLE AND CAD PLATE AS MFD.			06.10.31		
С	ADD C	AD PLATING		CP	06.08.14		
В	ADD D	6018-125 & F	PRIME AND PAINT	CP	06.06.30		
Α	NEW IS	SSUE	CP	06.03.31			
REV.			DESCRIPTION	BY	DATE		
DESIGN		P	DART AEROSP	ACE	LTD		
DRAWN		92	HAWKESBURY, ONTAR	IO, CANA	NDA		
CHECKE	D A DRAWING NO.			REV. F			
MFG. AF	PR.	E	D350-748-241				
APPROV	/ED	-#;	TITLE	E SCA			
DE APP	2	14	CROSSTUBE (AS 350/355 F	POSSTURE (AS 350/355 HI AET)			

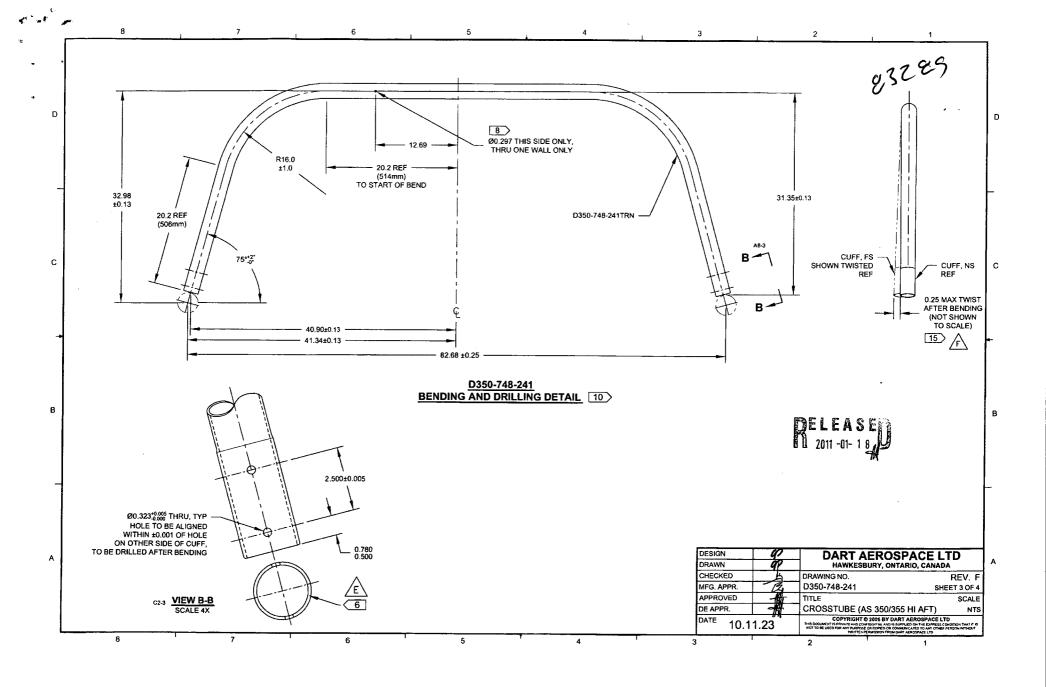
DATE 10.11.23

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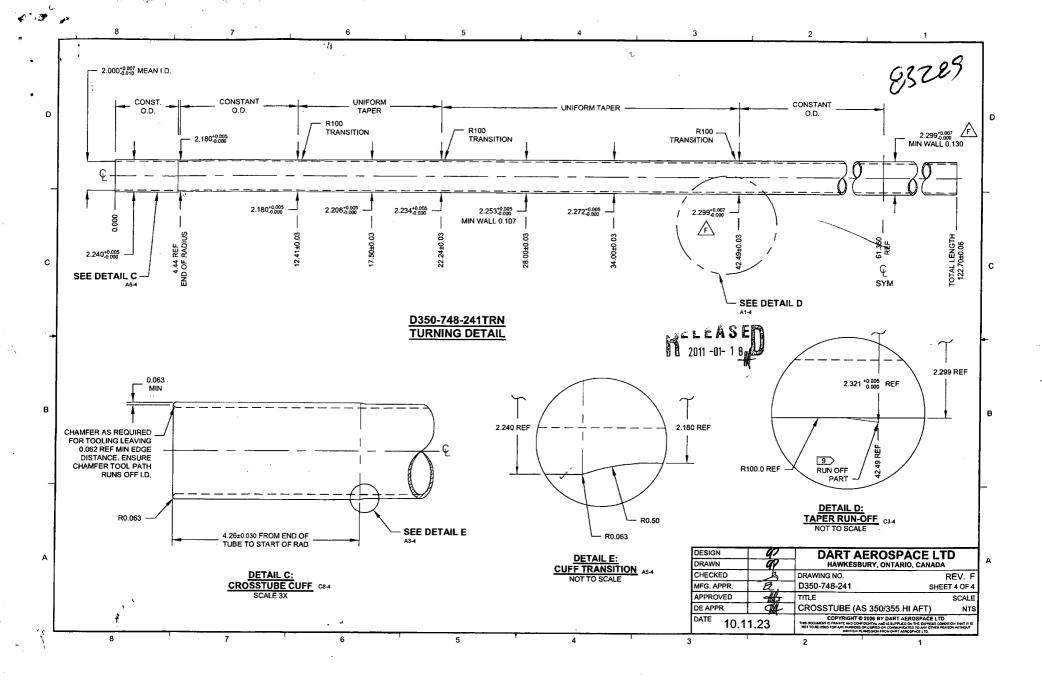
CROSSTUBE (AS 350/355 HI AFT)

Part No:		PAR #:	Fault Category:	NCR: Yes No	DQA:	Date:
	Resolution:		Disposition:	QA: N/C Closed	l:	Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Linda Lacelle

From:

David Shepherd <dshepherd@dartaero.com>

Sent:

March-08-12 11:58 PM

To:

'Linda Lacelle'; 'Provencal, Chris'

Cc:

'Pat Smith'; 'Bill Beckett'; 'Mike Petsche'

Subject:

RE: 350 crosstube extrusion

Linda,

Not sure if you heard back from anyone on this, but this makes sense to me.

David

From: Linda Lacelle [mailto:llacelle@dartaero.com]

Sent: March-07-12 7:11 AM

To: dshepherd@dartaero.com; Provencal, Chris Cc: Pat Smith; Bill Beckett; 'Mike Petsche' Subject: RE: 350 crosstube extrusion

So just to confirm, we can use the old D6018-125's for the afts to deplete this stock?

Thx Linda

From: Linda Lacelle [mailto:llacelle@dartaero.com]

Sent: March-06-12 10:19 AM

To: dshepherd@dartaero.com; Bill Beckett (bbeckett@dartaero.com); 'Mike Petsche' (mpetsche@dartaero.com);

Provencal, Chris

Cc: Pat Smith (psmith@dartaero.com)

Subject: 350 crosstubes

Not sure who direct these ones to:

- 1) We will be finished drilling the last crosstubes shortly, these 7 & 7 will ship today for heat treating. Do we wait before drilling the balance until we receive the first shipment back, or continue on drilling? We probably won't see these first ones back for a couple of weeks, but I'd like to make sure we don't wait until the last minute.
- 2) We currently have 44pcs of D6015-125 in stock, this extrusion does both the fwd and aft 350 crostubes. We also still have 38pcs of D6018-125, which does the aft 350 crosstubes. Should we place an order now to order more D6015-125? Can we use up the balance of the D6018-125's until depleted for all the next afts and use the D6015-125 for the fwds only?

Thank You, Linda Lacelle Production Manager Dart Aerospace Ltd Hawkesbury, ON Phone: 613 632 9577 Fax: 613 632 1053 Cell: 613 676 1655

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